

NRC FORM 366 (5-92)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
<h2 style="margin: 0;">LICENSEE EVENT REPORT (LER)</h2> <p style="margin: 5px 0;">(See reverse for required number of digits/characters for each block)</p>					
FACILITY NAME (1) <div style="text-align: center; font-weight: bold;">Seabrook Station</div>				DOCKET NUMBER (2) <div style="text-align: center; font-weight: bold;">05000443</div>	
PAGE (3) <div style="text-align: center; font-weight: bold;">1 OF 3</div>					
TITLE (4) <div style="text-align: center; font-weight: bold;">Train A Service Water Inoperability</div>					
EVENT DATE (5)		LER NUMBER (6)		REPORT DATE (7)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
4	1	93	93	-- 006 --	00
				MONTH	DAY
				4	30
				YEAR	
				93	
OPERATING MODE (9)		OTHER FACILITIES INVOLVED (8)			
1		FACILITY NAME <div style="text-align: center; font-weight: bold;">05000</div>			
POWER LEVEL (10)		DOCKET NUMBER <div style="text-align: center; font-weight: bold;">05000</div>			
100					
		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more)			
		20.402(b) 20.405(c) 50.73(a)(2)(iv) 73.71(b)			
		20.405(a)(1)(i) 50.36(c)(1) 50.73(a)(2)(v) 73.71(c)			
		20.405(a)(1)(ii) 50.36(c)(2) 50.73(a)(2)(vii) OTHER			
		20.405(a)(1)(iii) X 50.73(a)(2)(i) 50.73(a)(2)(viii) (Specify in			
		20.405(a)(1)(iv) 50.73(a)(2)(ii) 50.73(a)(2)(viii) Abstract below			
		20.405(a)(1)(v) 50.73(a)(2)(iii) 50.73(a)(2)(x) and in text,			
		NRC Form 366A)			
LICENSEE CONTACT FOR THIS LER (12)					
NAME Mr. James M. Peschel, Regulatory Compliance Mgr.				TELEPHONE NUMBER (Include Area Code) (603)474-9521 ext.3772	
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)					
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE	
SUPPLEMENTAL REPORT EXPECTED (14)					EXPECTED SUBMISSION DATE (15)
X YES (If yes, complete EXPECTED SUBMISSION DATE).					NO
					MONTH DAY YEAR 7 1 93
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)					
<p>On April 1, 1993, while performing surveillance testing, the Train A Cooling Tower Pump discharge valve could not be fully closed utilizing the motor operator attached to the valve. When this valve is not fully closed an interlock prevents starting of the associated train's Service Water (SW) pumps and Cooling Tower Pump[B]. The pumps would not start automatically following a Loss of Offsite Power with the valve not fully closed and therefore, the pumps were declared inoperable. Technical Specification 3.7.4, Service Water System, does not permit plant operation with 3 pumps within one loop inoperable and thus Technical Specification 3.0.3 was entered.</p> <p>Plant operators subsequently closed the valve manually and restored SW cooling from the ocean. There were no adverse safety consequences as a result of the event. Throughout the event Train B SW remained OPERABLE and Train A SW was supplied from the cooling tower.</p>					
<div style="display: flex; justify-content: space-between;"> <div> 9305110185 930430 PDR ADOCK 05000443 S PDR </div> </div>					

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER	LER NUMBER (6)			PAGE (3)
Seabrook Station	05000443	YEAR	SEQUENTIAL NUMBER	REVISION	2 OF 3
		93	--006--	00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

The Service Water (SW) System [BI] at Seabrook Station is comprised of two redundant trains. Each train has two pumps which supply cooling water from the ocean and one pump which supplies cooling water from a mechanical draft cooling tower. Operation of any one of the six pumps (2 trains of 3 pumps) is adequate to mitigate the consequences of a design basis event.

On April 1, 1993 SW Train A valve testing was being performed. Part of the testing involves transferring SW supply from the ocean to the cooling tower so that the open and close times for Train A Cooling Tower Pump Discharge Valve, SW-V54, can be measured. At 0300 of the same day, while measuring SW-V54's close time, the valve stopped before the fully closed position was reached. Operators reestablished SW cooling by opening SW-V54 and sent personnel to investigate the cause of the failure. At 0318 the three pumps within Train A SW were declared to be inoperable because neither the LCO or ACTION requirements for Technical Specification 3.7.4, Service Water System, could be met. Technical Specification 3.0.3 was entered at this time. At 0330 of the same day SW-V54 was closed manually and SW was transferred back to the ocean cooling supply. Once SW cooling was established from the ocean the two ocean SW pumps were declared to be OPERABLE, Technical Specification 3.0.3 was exited and Technical Specification 3.7.4 ACTION d was entered for the Cooling Tower Pump being inoperable.

The interlock which prevents the SW pumps from starting when SW-V54 is not fully closed has two purposes. First it prevents starting the Cooling Tower Pump when its discharge valve is not fully closed and second, it prevents the ocean SW pumps from filling the Cooling Tower with seawater. The three Train A SW pumps were declared to be inoperable because they were not capable of starting automatically following a Loss of Offsite Power (LOP) after the Emergency Diesel Generators re-energize the emergency busses. In addition, Technical Specification Surveillance Requirement 4.7.4b.2) also requires that the SW pumps be capable of starting automatically. Once SW-V54 was closed manually, the ocean SW pumps became OPERABLE because they were now capable of starting automatically.

Root Cause

The valve failed to close due to corrosion product buildup between the valve stem and packing follower. This caused increased friction between the valve stem and packing follower which resulted in a higher loading on the valves motor operator. The increased loading on the valve stem prematurely actuated a torque switch which stopped the valve prior to full stroke completion.

A contributing cause for the valve's failure is procedure inadequacy. The torque value specified for the valve's packing gland fastener caused over-torquing the valve's packing during installation. This caused increased friction and resulting valve stem loading and contributed to the premature actuation of the torque switch.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)		DOCKET NUMBER		LER NUMBER (6)			PAGE (3)
Seabrook Station		05000443		YEAR	SEQUENTIAL NUMBER	REVISION	3 OF 3
				93	--006--	00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

Corrective Action

1. SW-V54 was returned to OPERABLE status and Technical Specification 3.7.4 ACTION d. exited at 0523 on 4/2/93.
2. The diagnostic surveillance frequency for SW-54 will be changed from each refueling to quarterly for the next two quarters.
3. A new maximum packing gland fastener torque value for the 24 inch Service Water butterfly valves will be established.
4. An Engineering Evaluation will be performed to evaluate recommendations made by the valve vendor. These recommendations will be applied to other valves if applicable.
5. Diagnostic testing, to measure opening and closing torque, is scheduled to be completed on 24 inch Service Water motor operated valves during the next refueling outage.

Safety Consequences

There were no adverse safety consequences as a result of this event. Train B SW was not affected by the event and remained OPERABLE. The operation of only one train of SW is adequate to mitigate the consequences of a design basis event. In addition, operators were able to manually close SW-V54 and provide Train A SW cooling from the ocean.

Previous Occurrences

North Atlantic is investigating the event to determine if there were any previous occurrences. A supplemental LER will be submitted by July 1, 1993.

At the time of the event the plant was in Mode 1 at 100% power.